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REMARKS

Claims 1-68 were examined. Claims 1-13 were rejected under 35 U.S.C. § 112 (2nd para.). Claims 1-6, 13-16, 24-34, 40-42, and 45-68 were rejected under 35 U.S.C. § 103(a). Claims 17-23, 35-39, and 43-44 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claims 7-12 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 (2nd para.) and rewritten in independent form including all the limitations of the base claim and any intervening claims.

Claim Rejections - 35 U.S.C. § 112

Claims 1-13 stand rejected under 35 U.S.C. § 112 (2nd para.) as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses this rejection.

Regarding claim 1, the Examiner has questioned the phrase "in at least the second mode of operation." This phrase was originally included to make clear that the recited method steps of "enabling..." and "generating..." were not necessarily exclusive to the second mode of operation. As the claim is an open-ended claim (i.e., using a "comprising..." transition), the claim has been amended to eliminate this phrase and position the recited "enabling..." and "generating..." steps with the recitation of "in a second mode of operation." Such amendment is not believed to narrow the claim.

Claim 2 was amended to provide antecedent basis for "the first value". Such amendment is not believed to narrow the claim.

Claim Rejections - 35 U.S.C. § 103

Claims 1-6, 13-16, 24-34, 40-42, and 45-68 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto (U. S. Patent No. 6,160,745) in view of Shu et al. (U. S. Patent No. 5,519,712). Applicant respectfully traverses this rejection.

Regarding claim 1, Applicant respectfully submits that Hashimoto does not disclose every limitation argued in the Office action. Hashimoto fails to disclose, in a second mode of operation, "impress[ing] a read bias across each of a corresponding plurality of selected memory

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cells respectively coupled between the first plurality of selected X-lines and the *first selected Y-line*.” As applied in the Office action, Hashimoto’s burn-in test mode applies a “booster voltage VB simultaneously to the redundancy word line select signals (RWD) for the row redundancy area 5 and the word line select signals (WD) for the normal memory cell area 6” (column 11, lines 28-33). The booster voltage VB is not disclosed as a read bias signal, as called for in the recited limitation of the claim. Hashimoto makes no mention of enabling any read circuits, nor any mention of the suitability of such a booster voltage VB as a read bias, nor any mention of reading any information from any portion of the memory array, during such a burn-in test.

In contrast, Hashimoto teaches (e.g., in describing his embodiment 1) that his burn-in test mode may be used to “allow[s] a stress test to be performed on all of the row redundancy cells of the row redundancy cell area 5 collectively” (column 11, lines 13-15). Such a collective stress test on all such cells could not be performed if a single Y-line were selected. Any inherency arguments to the contrary that are based upon the block diagrams represented in the various figures would seem to be contradicted by such statements in the specification text. Even assuming, *arguendo*, that Hashimoto does select a Y-line during his burn-in test mode, there is no mention of reading any information during this mode, but only of applying a booster voltage VB simultaneously to all (or at least some) of the word lines in one or both of the redundant memory cell area 5 and the normal memory cell area 6 as part of the burn-in stress test. Reading the memory array is described with respect to other modes of operation, but never with respect to the burn-in test mode in which more than one word line signal is simultaneously enabled.

Applicant also respectfully submits that Shu does not disclose every limitation argued in the Office action. Shu fails to disclose, in a second mode of operation, “generating a first read signal on an output of the first read circuit having a first value *if an aggregate read current of the first plurality of selected memory cells exceeds a second mode threshold level*.” In contrast, Shu discloses a read circuit in which a first value is generated when a first aggregate read current exceeds a particular value *and* a second aggregate read current is less than the particular value, and otherwise generates a second value opposite the first value. In the case when both the first and second aggregate read currents exceed the particular value, the second value of the read signal is generated. So, in a case in which “an aggregate read current exceeds a second mode

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threshold value," Shu's read circuit can generate a read signal having either a first or a second value.

Applicant further submits that the circuitry disclosed by Shu simultaneously selects more than one column of memory cells having differential bit lines, and detects the *unexpected* presence of current in one of two differential test bus lines (coupled respectively to multiple pairs of differential bit lines) to generate a pass/fail signal on a test circuit (read circuit) particular to the test mode (see, column 2, lines 63-67; column 1, lines 50-51). Applicant further submits that Shu's circuitry does not suggest the limitation of claim 1 of generating a first read signal on an output of the first read circuit having a first value if an aggregate read current of the first plurality of selected memory cells exceeds a second mode threshold level. As a result, even if one assumes there is a suggestion to combine these references, Shu in combination with Hashimoto is not believed to render obvious Applicant's claim 1.

Regarding independent claims 14, 24, 29, 50, 55, and 63, a similar argument applies as for claim 1. Moreover, claim 14 also recites a fully decoded array of passive element memory cells, each memory cell comprising an anti-fuse. Claim 55 also recites "programmable memory cells" and further recites "identifying a maximum acceptable value of read current that would result from applying a given voltage across a defined group of unprogrammed memory cells." Shu teaches away from such a limitations, as his circuitry relies upon detecting an unexpected current in one of the test buses. Claim 63 also recites programmable memory cells.

Regarding claim 3, the Office action states that Hashimoto inherently discloses that the second mode threshold is different than the first mode threshold. Applicant respectfully submits that Hashimoto does not mention reading any information during a second mode, but only of applying a booster voltage VB simultaneously to all (or at least some) of the word lines in one or both of the redundant memory cell area 5 and the normal memory cell area 6 as part of the burn-in stress test. Reading the memory array is never described with respect to the burn-in test mode in which more than one word line signal is simultaneously enabled. It is difficult to support an inherency argument that the two thresholds are different when there is no support in the disclosure even describing reading the cells at all, let alone using a different threshold value.

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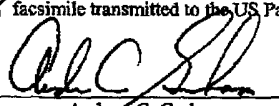
Allowable Subject Matter

Claims 17-23, 35-39, and 43-44 were indicated as being allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Claims 7-12 were indicated as being allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 (2nd para.) and rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicant appreciates this indication of allowability. In view of the arguments above in support of the allowability of the independent claims, these dependent claims remain without amendment.

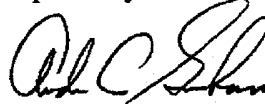
Summary

In summary, claims 1-68 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited.

In the event any issues remain, Applicant requests a telephonic Examiner Interview to discuss such issues.

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 Andrew C. Graham	<u>8/7/03</u> Date

Respectfully submitted,



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